

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendments, claims 1-5 and 7-20 are pending in the application, with claims 1, 11, and 20 being the independent claims. Claim 20 is sought to be added. Support for claim 20 can be found, for example, in pages 2-8, FIG. 3, and elsewhere in the present application. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendments and the following remarks, Applicants respectfully request the Examiner to reconsider and withdraw all outstanding rejections.

Rejection under 35 U.S.C. § 103

On page 2 of the Office Action, the Examiner rejected claims 1-5 and 7-19, under 35 U.S.C. § 103(a), as allegedly being unpatentable over U.S. Patent No. 6,749,655 B2 to Dautenhahn (hereinafter “Dautenhahn”). Applicants respectfully traverse.

Claims 1 and 11

Claim 1 recites features that distinguish over the applied reference. For example, claim 1 recites:

a cleaning liquid ...; and
a deposition wall having a surface, the surface being
configured to receive a film of the cleaning liquid and being
configured to be an outer wall of the cleaning device.

Similarly, claims 11 recites, for example:

a plurality of separate deposition walls each having a
surface, the surface being configured to *receive a film of a
cleaning liquid that is configured to clean a contaminated
process gas*

...

wherein at least one of the plurality of separate deposition walls is an inner surface of an outer wall of the system.

1. Dautenhahn does not disclose “a cleaning liquid”

Dautenhahn is directed to a filtration system to remove volatilized organic compounds from a vapor stream, by causing the vaporized organic compounds to condense into contaminant droplets on wettable media (Dautenhahn, Abstract and column 6, lines 25-30). The contaminants include solvent and other additives from flux (Dautenhahn, column 3, lines 38-53).

The Examiner alleges on page 2 of the Office Action that Dautenhahn discloses "a cleaning liquid from the soak zone (13)... a film of the cleaning liquid (62)." Applicants respectfully disagree with this interpretation of Dautenhahn. Applicants submit that "soak zone" refers to thermal soaking/heating, not liquid soaking. "In the... soak zones the products are heated and the volatile components in the flux vaporize," (Dautenhahn, column 1, lines 30-31). Dautenhahn therefore lacks “a cleaning liquid,” as recited in claims 1 and 11, because the only liquid in Dautenhahn is contaminate condensate.

Regarding the Examiner's allegation that film 62 illustrated in FIGS. 5 and 6 is “a cleaning liquid,” as recited in claims 1 and 11, Dautenhahn discloses that "film 62 of the condensed organic compounds forms via heterogeneous nucleation," (Dautenhahn, column 6, lines 52-53). The condensed organic compounds are contaminants from the vapor stream, and not “a cleaning liquid,” as recited in claims 1 and 11. "Contaminants in the vapor stream may undergo multiple collisions with the wettable balls 60, increasing the likelihood that condensed organic compounds in the vapor stream will nucleate on the surface of the wettable balls 60," (Dautenhahn, col. 6, lines 48-51).

Further, as Dautenhahn does not disclose a "cleaning liquid," as noted above, Dautenhahn cannot disclose or suggest that a surface of any of the walls is "configured to receive a film of the cleaning liquid," as recited in claims 1 and 11.

2. Dautenhahn does not disclose "a deposition wall ... configured to be an outer wall of the cleaning device" or "wherein at least one of the plurality of separate deposition walls is an inner surface of an outer wall of the system"

a. Dautenhan Cannot Teach These Features Without Rendering The Reference Inoperable

The Examiner further alleges on page 2 of the Office Action that deposition member 60 (FIGS. 4-6 of Dautenhahn) is "configured to be an outer wall of the cleaning device," as recited in claim 1, and applicants assume a similar feature, using respective language, in claim 11. Applicants disagree because the wettable balls 60 of Dautenhahn are enclosed within housing 44 (FIG. 3). It is not clear how it would be possible for wettable balls 60 to be "configured to be an outer wall of the cleaning device," as recited in claim 1 or "wherein at least one of the plurality of separate deposition walls is an inner surface of an outer wall of the system," as recited in claim 11, without rendering housing 44 inoperable. If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984). For example, Dautenhahn discloses that the wettable balls 60 "provide... a tortuous pathway for a vapor stream passing therethrough," (Dautenhahn, column 6, lines 32-34). Thus, if wettable balls 60 were somehow configured to be an outer wall of the cleaning device, the vapor stream would escape from the housing 44 through the wettable ball pathway, preventing the vapor stream from returning to the heating tunnel.

Also, the Examiner alleges on page 2 of the Office Action that "[i]t would have been obvious to... adopt any shape of the deposition member as [a] deposition wall or deposition wettable ball or any other desired shape since it is well settled that mere change of shape **without affecting the function of the part** would have been an obvious design modification. *Eskimo Pie Corp v. Levous et al 3 USPQ 23.*" (Emphasis added.) Applicants disagree because Dautenhahn discloses that changing the wettable balls 60 would affect their function. Dautenhahn discloses that "[t]he vapor stream... undergoes an expansion as it fills the lower region of the housing 44 causing an increase in droplet size... . The vapor stream then flows... up through the packed bed of wettable media 56," (Dautenhahn, column 6, lines 17-25). "[T]he packed bed comprises 1250 5/16-inch (about 8-mm) diameter steel balls at a depth of about 2 inches (about 5 cm). Increasing the depth of the bed will improve collection but will produce a greater pressure drop across the packed bed," (Dautenhahn, column 6, lines 39-43). Thus, Dautenhahn relies on the pressure drop provided by the packed bed of wettable balls to condense the contaminate out of the vapor, and changing the wettable balls into walls would therefore alter the pressure drop and negatively affect the collection of contaminate condensate.

Further, even if the wettable balls were somehow changed to become "an outer wall of the cleaning device," as recited in claim 1, or "an inner surface of an outer wall of the system," as recited in claim 11, as apparently alleged by the Examiner, the wettable balls would become the housing 44 and thereby be removed entirely from Dautenhahn, interfering with the required fine filtration effect provided by the wettable balls in Dautenhahn.

Alternatively, if the plurality of wettable balls of Dautenhahn were changed to a plurality of walls within housing 44, as apparently alleged by the Examiner, such hypothetical walls would not be "an outer wall of the cleaning device," as recited in claim 1, or "an inner surface of an outer wall of the system," as recited in claim 11, because the

hypothetical walls would be enclosed by housing 44 (Dautenhahn, FIG. 3). The hypothetical walls would be isolated further from the housing 44 by perforated plate 54 (Dautenhahn, FIG. 3), because Dautenhahn discloses "[t]he perforated plate 54 also supports the packed bed of wettable media 56, which surround the lower end of the connecting duct 43," (Dautenhahn, column 6, lines 15-17).

Applicants submit that it is improper to modify a reference if the proposed modification would render the reference unsatisfactory for its intended purpose, and therefore cannot support *prima facie* obviousness. See *In re Gordon*, discussed above, and M.P.E.P. Section 2143.01(V). The above-noted hypothetical modifications, as apparently alleged by the Examiner, would render Dautenhahn unsatisfactory for its intended purpose. Thus, Applicants submit that the above-noted hypothetical modifications would be improper, and therefore would not be obvious to a person of ordinary skill in the art.

b. The Examiner has not clearly articulated how Dautenhahn teaches the distinguishing features as required by KSR

The United States Supreme Court, in *KSR International vs. Teleflex, Inc.*, 127 S. Ct 1727 (2007), ruled on the requirements for obviousness analysis under 35 U.S.C. 103(a). The most recent MPEP (8th Edition) includes guidelines for §103 rejections, and recites:

The key to supporting any rejection under 35 U.S.C. 103 is the ***clear articulation*** of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made ***explicit***. The Court quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), stated that “***[R]ejections on obviousness cannot be sustained by mere conclusory statements***; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396.

(See also, M.P.E.P. Section 2141(III))

Based on the *KSR* requirements for obviousness, the Examiner has not properly articulated in the Office Action how Dautenhahn's teachings of wettable balls are sufficient to support "a deposition wall having a surface... configured to be an outer wall of the cleaning device," as recited in claim 1 or "wherein at least one of the plurality of separate deposition walls is an inner surface of an outer wall of the system," as recited in claim 11. There is no evidence that a person of ordinary skill in the art would think it obvious that at least the above-noted distinguishing features would be taught or suggested by the wettable balls disclosed in Dautenhahn. This is especially true since Dautenhahn requires a specific function of the wettable balls, as noted above regarding the necessary pressure drop and fine filtration.

Dautenhahn discloses additional requirements for the wettable media, including that it is a packed bed, provides high wettable surface area, and a tortuous pathway (Dautenhahn, column 6, lines 31-34). However, regarding variations of the wettable media, Dautenhahn merely discloses that the wettable balls can be "formed of... other materials, such as borosilicate glass... as long as they provide a wettable surface and can withstand the high temperatures of the vapor stream," (Dautenhahn, column 6, lines 34-37). Thus, a person of ordinary skill in the art would not find it obvious to include, for example, features relating to "outer wall" as recited in claims 1 and 11 noted above, in view of Dautenhahn's numerous requirements regarding the specific wettable media configuration. Accordingly, in view of the absence of any teaching or suggestion, Applicants submit that the Examiner is instead relying on impermissible hindsight and improper speculation without objective evidentiary support in an attempt to change the teaching of the cited reference.

Claim 11

Claim 11 recites additional features that distinguish from the applied reference. For example, claim 11 recites "a supply for the cleaning liquid... arranged in an area on top of edges of the plurality of separate deposition walls."

The Examiner does not appear to have addressed this claim feature in the Office Action. Therefore, Applicants assume the Examiner has noted this feature is not disclosed in the applied reference.

Thus, the applied reference cannot be used to establish a prima facie case of obviousness for at least the above-noted claim features of claims 1 and 11.

For all the reasons above, Applicants request that the rejection under 35 U.S.C. § 103(a) be reconsidered and withdrawn, and that claims 1 and 11 be passed to allowance. Rejected claims 2-5 and 7-10 depend from independent claim 1, and rejected claims 12-19 depend from independent claim 11. Thus, Applicants respectfully submit that dependent claims 2-5, 7-10, and 12-19 are allowable at least by virtue of their respective dependencies from claims 1 and 11, and also by virtue of their own distinguishing features.

New Claim 20

New claim 20 recites features that distinguish over the applied reference. For example, claim 20 recites:

at least one deposition wall having a surface, the surface being configured to receive **a film of cleaning liquid** and being configured to be **an outer wall of the cleaning device**;

a supply for the cleaning liquid arranged in an upper area of the at least one deposition wall, configured to provide the film of cleaning liquid such that the film of cleaning liquid traps contaminants and flows downward along the at least one

deposition wall, the supply for the cleaning liquid constantly replacing the film of cleaning liquid

At least these distinguishing features are distinguishing over the applied reference for similar reasons as discussed above for similar distinguishing features, using respective language, as recited in claims 1 and 11. Therefore, Applicants request that new claim 20 be passed to allowance.

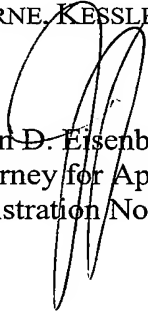
Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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